



DESCRIPTION OF OBJECTIVE AND STRATEGIES USED FOR WORK ZONES

By Bob Janosi

Observance of National Work Zone Awareness Week, this year, will be during the week of April 19-23. The main goals of work zone awareness are to reduce fatal work zone traffic crashes in addition to improving the overall work zone traffic safety for the workers, motorists, and all other roadway users.

This article, however will discuss the various objectives and strategies, which can or should be implemented, at all times, into the various work zones to help make them safer. There are improvements in work zone engineering practices; enforcement of traffic laws and regulations; education of the drivers, designers and roadway workers; and improvement of agency policies/procedures. The various objectives and strategies for improving safety in work zones are as follows.

1. OBJECTIVE: REDUCTION OF THE IMPACT OF WORK ZONES

(Reducing the duration and number)

By reducing exposure of both the motorists to work zones and that of the workers to traffic, lessens the opportunities for traffic crashes to occur. This can be accomplished by using construction and maintenance practices that increase the service life of pavement and roadway structures, in addition with, the acceleration of construction and maintenance activities, by scheduling roadwork to avoid those periods of high traffic volumes. Another way can be by providing adequate space, when possible, for future roadwork in new project development.

Key: (P) = Proven; (T) = Tried; (E) = Experimental

STRATEGIES: REDUCTION OF THE IMPACT OF WORK ZONES

- Improve maintenance and construction practices (P)
- Utilize time related contract provisions (P)
- Use nighttime road work (P)
- Use demand management programs to reduce volumes through work zones (P)
- Utilize full-time roadway closure for construction operations (T)
- Design future work zone capacity into new or reconstructed highways (T)

2. OBJECTIVE: IMPROVEMENT OF DESIGN PRACTICES FOR WORK ZONES

Addressing safety for both roadway users and that of the workers during the planning stages of the project can reduce the potential for crashes related to the work zone. Providing consistent design features across a jurisdiction, by establishment of work zone design guidance helps to provide the roadway users with an environment that better meets one's expectations. The proper design of work zones can help im-

prove safety for all road users by providing positive guidance and accommodations for motorized vehicles and nonmotorized travelers. Protection of the workspace from traffic by positive separation can help reduce potential conflicts from occurring between the workers and the road users.

STRATEGIES: IMPROVEMENT OF DESIGN PRACTICES FOR WORK ZONES

- Establish work zone design guidance (T)
- Implement measures to reduce work space intrusions (and limit consequences of intrusions) (T)
- Improve work zone safety for pedestrians, bicyclists, motorcyclists, and heavy-truck drivers (T)

3. OBJECTIVE: IMPROVE WORK ZONE TRAFFIC CONTROL DEVICES

The traffic control devices used to convey information and guidance to motorists to alert the presence of workers and the potential of roadway hazards need to be clearly visible, properly placed and must have both clear and constant meaning. The visibility of all workers, especially flaggers, and of work vehicles is necessary for the protection of workers and roadway users. The increased use of new and improved devices should be considered, to help alert, warn and guide motorists through the various work zones. As one is well aware of, work zones often present a higher degree of driver information and vehicular control workload than those of non-work zones. Therefore, the better use and placement of these traffic control devices is imperative.

STRATEGIES: IMPROVE WORK ZONE TRAFFIC CONTROL DEVICES

- Improve visibility of work zone traffic control devices (T)
- Reduce flaggers exposure to traffic (T)
- Improve visibility of work zone personnel and vehicles (varies)
- Implement ITS strategies to improve safety (E)

4. OBJECTIVE: IMPROVEMENT OF DRIVER COMPLIANCE WITH WORK ZONE TRAFFIC CONTROL

A large percentage of crashes are caused by noncompliance with traffic control devices or traffic laws in the work zone. An increased number of motorists have become more aggravated and become more aggressive when driving through a work zone, than during their normal roadway travel, when not affected by one. Therefore, both conventional and automated enforcement campaigns have potential to reduce undesirable driver behavior and improve safety in work zones. Traffic control devices and signage that convey credible messages regarding speed limits and conditions, the use

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of driver feedback signage, the implementation of double speeding fines when in the presence of workers, and the increased presence of law enforcement help contribute to driver compliance with traffic laws and regulations.

STRATEGIES: IMPROVEMENT OF DRIVER COMPLIANCE WITH WORK ZONE TRAFFIC CONTROL

- Enhance enforcement of traffic laws in work zones (T)
- Improve application of increased driver penalties in work zones (T)
- Improve credibility of signs (E)

5. OBJECTIVE: INCREASED KNOWLEDGE AND AWARENESS OF WORK ZONES

Training of designers, road workers and of the roadway users can improve how work zones are designed, implemented and used. Such as, the use of public information and safety education campaigns to help improve driver skills through proper guiding of vehicles through work zones. The training of agency staff and workers in various programs can help ensure the use of proper traffic control devices to be implemented in the work zone to provide appropriate and positive guidance for the road users to reduce driver confusion.

STRATEGIES: INCREASED KNOWLEDGE AND AWARENESS OF WORK ZONES

- Disseminate work zone safety information to road users (T)
- Provide work zone training programs and manuals for designers and field staff (T)

6. OBJECTIVE: DEVELOP PROCEDURES TO EFFECTIVELY MANAGE WORK ZONES

At an agency level, improvement of work zone safety can be brought with appropriate management practices, such as crash data system improvements, interagency coordination, inspections and even safety awards.

STRATEGIES: DEVELOP PROCEDURES TO EFFECTIVELY MANAGE WORK ZONES

- Improve coordination, planning, and scheduling of work activities (T)
- Implement work zone quality assurance procedures (i.e. safety inspections or audits) (T)
- Develop or enhance agency-level work zone crash data systems (T)
- Use incentives to create and operate safer work zones (T)

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The strategies noted were identified from a number of sources, including recent literature and information gathered, by others, from contact with state and local agencies throughout the United States and federal programs. Some of the strategies noted are widely used, while some have been subjected to only a limited number of trial applications. Some strategies described were subjected to well designed evaluations to prove their effectiveness, while others strategies, including some that are widely used, were reported have not been thoroughly evaluated.

With the implication of the varying degree of experience and use of these strategies, as well as the knowledge of their effectiveness, it was highly recommended to exercise caution in many cases before adopting a particular strategy for implementation.

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lic works is now regarded as a first responder and agencies, particularly at the local level, must step up to that responsibility. The profusion of related laws, mandates, programs and the rapidly evolving body of training and knowledge - sharing can make staying abreast of these changes overwhelming. It becomes a daunting task for a public works or transportation department, especially smaller ones, to sort through the available information and develop goals, objectives, and strategies and obtain the resources needed to fulfill this new mission.

As most disasters and incidents will occur at the local level, it is incumbent on municipal, county, and tribal governments to plan accordingly. Police, fire, and emergency medical services will still be the primary responders and usual incident commanders but, as they adapt to new practices, policies and procedures, certain functions they have traditionally performed may now be the responsibility of Public Works/Transportation. Our unique capabilities and diverse resources will be of vital importance to the safety, security, mobility, and well-being of communities and the nation.

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